CLAIMS

What is claimed as the invention is:

1. An immunogenic composition suitable for administration to a human, comprising an effective combination of:
a) tumor-associated antigen obtained from a cell autologous to the human, or the progeny of such a cell; and
b) a cell allogeneic to the human, genetically altered to produce a cytokine at an elevated level.

2. The immunogenic composition of claim 1, wherein the cytokine is selected from the group consisting of IL-4, GM-CSF, IL-2, TNF-α, and M-CSF.

3. The immunogenic composition of claim 1, comprising a plurality of allogeneic cells genetically altered to secrete different cytokines at elevated levels.

4. An immunogenic composition suitable for administration to a human, comprising an effective combination of:
a) a first population of tumor cells autologous to the human, or progeny of such cells; and
b) a second population of tumor cells allogeneic to the human genetically altered to produce a cytokine at an elevated level, or progeny of such cells.

5. The immunogenic composition of claim 4, wherein the first cell population consists essentially of primary tumor cells dispersed from a solid tumor obtained from said human.

6. The immunogenic composition of claim 4, wherein the first cell population comprises cells selected from the group consisting of glioma cells, glioblastoma cells, gliosarcoma cells, astrocytoma cells, and ovarian cancer cells.

7. The immunogenic composition of claim 4, wherein the first cell population is inactivated.

8. The immunogenic composition of claim 4, wherein the second cell population is inactivated.

9. The immunogenic composition of claim 4, wherein the majority of the cytokine produced at an elevated level is secreted from the cells.

10. The immunogenic composition of claim 4, wherein the majority of the cytokine produced at an elevated level is present on the outer membrane of the cells.

11. The immunogenic composition of claim 4, wherein the cytokine is selected from the group consisting of IL-4, GM-CSF, IL-2, TNF-α, and M-CSF.

12. The immunogenic composition of claim 4, wherein the cytokine is membrane-associated M-CSF.

13. The immunogenic composition of claim 4, wherein the number of cells in the first cell population to that in the second cell population is a ratio between 1:10 and 10:1.

14. An immunogenic composition suitable for administration to a human, comprising a tumor associated antigen and a population of cells expressing a transmembrane

cytokine at a level sufficient to enhance an immune response to the tumor associated antigen.

15. The immunogenic composition of claim 14, wherein the cells are tumor cells autologous to the human or progeny thereof, and the tumor associated antigen is expressed by the tumor cells.

16. The immunogenic composition of claim 14, wherein the cells are allogeneic to the human, and the tumor associated antigen is expressed by another population of cells in the composition that is autologous to the human.

17. A brain cancer cell designated ACBT, and the progeny thereof.

18. The brain cancer cell and progeny thereof according to claim 17, genetically altered to secrete at an elevated level a cytokine selected from the group consisting of IL-4, GM-CSF, IL-2, TNF-α, and M-CSF.

19. The brain cancer cell and progeny thereof according to claim 17, genetically altered to secrete a cytokine at an elevated level, the genetically altered cell selected from the group consisting of ACBT/TNF-G, ACBT/IL-4-T, ACBT/IL-2-C2, ACBT/GM-CSF-M4, and the progeny thereof.

20. A unit dose of the immunogenic composition according to claim 4, wherein the number of primary tumor cells from said human or progeny thereof is at least about 5×10^6 but no more than about 2×10^8.

21. A method for producing the immunogenic composition of claim 1, comprising mixing:

a) tumor-associated antigen obtained from a cell autologous to the human; with

b) a cell allogeneic to the human, genetically altered to produce a cytokine at an elevated level.

22. A method for producing the immunogenic composition of claim 4, comprising mixing:

a) a population of tumor cells autologous to the human, or the progeny of such cells; with

b) a population of tumor cells allogeneic to the human genetically altered to produce a cytokine at an elevated level, or the progeny of such cells.

23. A kit for producing the immunogenic composition of claim 4, comprising:

a) a container containing a cell allogeneic to the human, genetically altered to produce a cytokine at an elevated level, for mixing with tumor cells autologous to the human or progeny of such cells; and

b) written instructions for preparing or administering the composition.

24. A method of inducing an anti-tumor immunological response in a human, comprising administering an immunogenic amount of the immunogenic composition of claim 1 to the human.

25. A method of stimulating an anti-tumor immunological response in a human, comprising the steps of:

a) forming a cell mixture by mixing together *in vitro* a tumor-associated antigen obtained from a cell autologous to the human with a cell allogeneic to the human, wherein the allogeneic cell has been genetically altered to produce a cytokine at an elevated level; and

b) administering an immunogenic amount of the cell mixture to the human.

26. The method of claim 25, wherein said immunological response is a primary response.

27. The method of claim 25, wherein said immunological response is a secondary response.

28. A method of stimulating an anti-tumor immunological response in a human, comprising the step of administering to the human a composition comprising a tumor associated antigen and a population of cells expressing a transmembrane cytokine according to claim 14.

29. A method of treating a neoplastic disease in a human, comprising administering an effective amount of the immunogenic composition of claim 1 to the human.

30. A method of treating a neoplastic disease in a human, comprising the steps of:

a) forming a cell mixture by mixing together *in vitro* a tumor-associated antigen obtained from a cell autologous to the human with a cell allogeneic to the human, wherein the allogeneic cell has been genetically altered to produce a cytokine at an elevated level; and

b) administering an effective amount of the cell mixture to the human.

add A6